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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/578,062 | 05/02/2006 | Johan Lub | 0152-0803PUS1 | 5046 |

2292 7590 10/08/2009

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| EXAMINER |
|---|
| HON, SOW FUN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1794 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 10/08/2009 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/578,062 | LUB ET AL. | |
| | Examiner | Art Unit | |
| | SOPHIE HON | 1794 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *6-15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 4-5* is/are rejected.

7)☒ Claim(s) *3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/22/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

### *Withdrawn Objections/Rejections*

1. The objection to the specification is withdrawn due to Applicant's amendment dated 03/16/09.

2. The objection to claim 5 is withdrawn due to Applicant's amendment dated 03/16/09.

3. The 35 U.S.C. 112, 2nd paragraph rejection of claim 3 is withdrawn due to Applicant's amendment dated 03/16/09.

4. The 35 U.S.C. 102(b)/103(a) rejections of claims 1-5 over Naito as the primary reference, are withdrawn due to Applicant's amendment dated 03/16/09.

### *New Rejections*

### *Claim Rejections - 35 USC § 102/103*

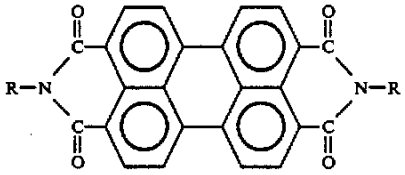
The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-2, 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Broer (US 5,024,850), as evidenced by Andreatta (US 5,751,389).

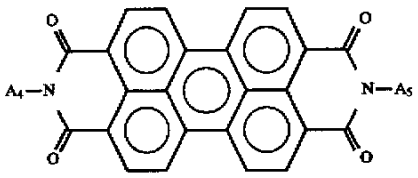
Regarding claim 1, Broer teaches a guest-host (column 5, line 65) polarizer (polarization filter, column 2, line 14) comprising an oriented film including an oriented polymerized liquid crystal host and a dichroic light-absorbing guest dispersed and

oriented in the host (oriented layer having an ordered network of a polymerized and oriented monomer in which dichroic colorant which is finely dispersed therein is oriented also, column 2, lines 14-20). Broer fails to disclose the dichroic ratio.

However, Broer teaches a dichroic colorant ((18), columns 7-8, lines 55-65), shown below that has a structure that is analogous to a dichroic colorant that is known to provide a dichroic ratio that is within the claimed range of about 15 or more, as evidenced by Andreatta.



Andreatta teaches that a perylene colorant (column 25, lines 10-25) with the general formula shown below can provide a dichroic ratio of 25 or more (not less than 25, abstract).



(IV)

In the alternative, Andreatta teaches that the dichroic colorant shown above is used in a conventional guest-host polarizer (perylenes, column 4, lines 17-22) and has

a high dichroic ratio of 25 or more (not less than 25, abstract) that is within the claimed range of 15 or more, for the purpose of providing the desired high polarizing contrast properties (column 32, lines 19-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the oriented film in the guest-host polarizer of Broer, with a dichroic colorant that yields a dichroic ratio that is about 15 or more, in order to obtain the desired high polarizing contrast, as taught by Andreatta.

Regarding claim 2, Broer teaches that the oriented polymerized liquid-crystal host is obtained by polymerizing an oriented polymerizable liquid crystal (oriented layer having an ordered network of a polymerized and oriented monomer in which dichroic colorant which is finely dispersed therein is oriented also, column 2, lines 14-20).

Regarding claim 4, Broer teaches that the oriented polymer film can have a thickness of about 10 μm (column 9, lines 38-41).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Broer as evidenced by, or in the alternative, in view of, Andreatta as applied to claims 1-2, 4 above, and further in view of Miroshin (US 6,767,594).

Broer, as evidenced by, or in the alternative, as modified by, Andreatta, teaches the guest-host polarizer described above. In addition, Broer teaches that the dichroic light-absorbing guest can be a blue light-absorbing dichroic colorant (column 10, lines 40-47). Broer, as modified by Andreatta, fails to teach an embodiment where the polarizer further comprises a thin film obtained from a perylene-based, naphthalene-based or anthraquinone-based lyotropic liquid crystal.

However, Miroshin teaches that a thin film (having thickness less than 0.1 mcm, column 11, lines 34-36) obtained from a perylene-based, naphthalene-based (column 12, lines 1-2) or anthraquinone-based (column 11, lines 60-65) lyotropic liquid crystal or combinations thereof (column 11, lines 45-55) provides a polarizing layer that has very high polarization characteristics (It is known, column 1, lines 53-65) that is laminated to a different polarizing layer (birefringent anisotropically absorbing layer, column 9, lines 33-42) for the purpose of forming an interference-type polarizer (column 9, lines 33-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have laminated a thin film obtained from a perylene-based, naphthalene-based or anthraquinone-based lyotropic liquid crystal, to the oriented polymer film including the oriented polymerized liquid crystal host and dichroic blue light-absorbing guest in the guest-host polarizer of Broer, in order to obtain an interference-type polarizer, as taught by Miroshin.

### ***Allowable Subject Matter***

7. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art cited above teaches a guest-host polarizer wherein the orientation of the oriented film is or corresponds to the orientation of a smectic phase Sx wherein the smectic Sx is not smectic A or smectic C phase. Applicant has demonstrated the importance of the orientation of the oriented

film to occur at, and thus correspond to the orientation of a smectic phase Sx. See Applicant's specification (Examples 1-4, pages 20-29).

### *Response to Arguments*

8. Applicant's arguments with respect to claims 1-2, 4-5 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sophie Hon/

Sow-Fun Hon

Examiner, Art Unit 1794